

US to USSR: American Experts and the Irrigation of Soviet Central Asia, 1929-1932

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The stories of Americans such as John Reed, or Julius and Ethel Rosenberg, who were sympathetic to the Bolsheviks and supported the Soviet cause, are well known. Less well known, however, are the stories of Americans who provided technical assistance to the Soviets. In the 1920s and 1930s, particularly during the years of the First Five-Year Plan (1928-1932), thousands of Americans traveled to the Soviet Union to help build the first socialist country in the world. Many were workers, enticed by the idea of a country in which the working class (theoretically) ruled. But many were also professionals, men who did not necessarily support socialism or communism, but relished the opportunity to participate in an enormous experiment. In the first two decades of Soviet rule, American experts helped to design and build a great dam on the Dnieper River in Ukraine, a huge steel plant in the Urals region, and large-scale industrial farms in the Caucasus.¹

Though these experts offered general scientific and technical advice on projects that promoted a kind of transnational ideology that had little to do with political ideologies – a vision of modernization, progress, and the ability of scientific expertise to conquer nature that was shared between the Soviet Union and the United States – their work was not apolitical. Knowingly or unknowingly, they enabled governments to transform environments in ways that were often

¹ For foreign workers in the USSR, see Andrea Graziosi, "Foreign Workers in Soviet Russia, 1920-40: Their Experience and Their Legacy," *International Labor and Working-Class History*, 33 (Spring 1988), 38-59. For American technical assistance to the Soviet Union in particular, see Antony Sutton, *Western Technology and Soviet Economic Development*, Vols. I-III (Stanford: Hoover Institution, 1971); Dana Dalrymple, "American Technology and Soviet Agricultural Development, 1924-1933," *Agricultural History*, 40, 3 (July 1966), 187-206; Deborah Fitzgerald, "Blinded by Technology: American Agriculture in the Soviet Union, 1928-32," *Agricultural History*, 70, 3 (Summer 1996), 459-486; Kendall Bailes, "The American Connection: Ideology and the Transfer of American Technology to the Soviet Union, 1917-1941," *Comparative Studies in Society and History*, 23, 3 (July 1981), 421-448; Stefan Link, Ch. 3 in "Transnational Fordism. Ford Motor Company, Nazi Germany, and the Soviet Union in the Interwar Years" (Unpubl. Ph.D. diss., Harvard Univ., 2012). For the longstanding Russian interest in the United States more generally, see Hans Rogger, "Amerikanism and the Economic Development of Russia," *Comparative Studies in Society and History*, 23, 3 (July 1981), 382-420.

detrimental to the lives of the people who lived there. Using published and unpublished sources from archives and libraries in the United States and the former Soviet Union, this essay looks at one particular case of American technical assistance – assistance to Soviet irrigation and cotton-growing schemes in Uzbekistan – to explore the little-known story of American participation in the perpetuation of Russia’s colonial relationship with its Central Asian borderland.² Though they were drawn by ideas of freedom, equality, and progress, two small groups of Americans -- irrigation engineers and agronomists -- through development schemes that further established Central Asians’ dependence on the cultivation of cotton, helped imperial mindsets and practices in the region to become more firmly entrenched, even as their praise and criticism remained squarely focused on the socialist ideology of Central Asia’s new rulers.

White Gold Fever

Even before the establishment of Soviet power in the region, Central Asia was connected to America by a very important fiber: cotton. In the nineteenth century, the Russian textile industry – one of the empire’s most well-developed industries - relied in large part on expensive imports of cotton from the United States. Russians paid up to 100,000 rubles annually for American cotton. In the 1850s and 1860s the flow of American cotton into Russia was disrupted by first the Crimean War and then the American Civil War. The embargo on cotton coming from the American South during the Civil War coincided with the first Russian military advances into Central Asia, where the imperial province known as the Governor-Generalship of Turkestan was created in 1867. It is therefore unsurprising that some Russian entrepreneurs and officials soon began to hope that the warm sunshine of Turkestan might someday provide a regular supply of

² (Soviet) Central Asia here refers to the lands occupied by the current (former Soviet) republics of Uzbekistan, Turkmenistan, and Tajikistan (as well as, to a lesser extent, Kyrgyzstan and southern Kazakhstan). This region approximately corresponds to the imperial Russian province of Turkestan at the end of the nineteenth century; therefore Turkestan and Central Asia are used interchangeably.

raw cotton to Russian textile mills. In fact, a native variety of short-staple cotton was already grown by indigenous Turkestanian planters and served as a supplement to the longer-staple American cotton imports required for the production of cotton fabrics using textile machinery. By the turn of the twentieth century, an acclimatized type of American Upland cotton (*Gossypium hirsutum*) had rapidly begun to replace indigenous cotton in Russian-ruled Central Asia.

Further increases in Russian cotton production in Central Asia would require an expansion of the cultivated acreage. Tsarist officials hoped that opening up more land for cultivation would not only increase agricultural production, but would also promote the colonization of Turkestan with Slavic and other European settlers, thus tying the region more firmly to Russia. Settler-farmers could serve as models for the indigenous Muslim population, particularly the nomadic population of the region. Russian officials hoped that nomads would see the advantages of “European civilization” and adopt a sedentary agricultural lifestyle. For the Russian government, as for other modernizing states, sedentary subjects were infinitely preferable to nomadic ones, being easier to control, count, and tax. The Russian notion of a “civilizing mission” in Turkestan was also a legitimating discourse designed to mask material and geopolitical interests in the region.

Civilizing by example proved to be simpler in theory, however, than it was in practice. While Turkestan had a warm climate that made it resemble a “promised land” in comparison with other parts of the Russian Empire, much of the region was also extremely arid.³ Fertile areas such as the Ferghana Valley and the oases of Samarkand, Bukhara, and Khiva, quickly gave way to vast deserts and inhospitable steppes. Many of the rivers in the region simply disappeared into these

³ For a summary of the extant data on rainfall and evaporation in the Amu, Syr, and Aral basins, as well as a comparison with the Nile, see Willi Rickmer Rickmers, *The Duab of Turkestan: A Physiographic Sketch and Account of Some Travels* (Cambridge: Univ. of Cambridge Press, 1913), 508-524.

arid expanses before ever reaching an outlet. Moreover, the waters of the great Amu and Syr rivers flowing westward across the plains from high mountains on the Chinese border were heavily laden with silt, meaning that irrigation channels that drew water from these courses required frequent maintenance. It quickly became clear to Central Asia's new rulers that the expansion of the region's agriculture required a kind of expertise that they did not have.

Irrigation was an art that had been improved upon for centuries by indigenous Central Asians, in part by adapting techniques and technologies employed by peoples inhabiting a larger knowledge space that stretched across arid environments from northern Africa to western China. Depending on the place, the season, the availability of water, and the system itself, water wheels might be used to raise low-lying water to the level of the fields, silt might be spread on fields where fertilizer was scarce, rice paddies might be used to restore land where the soluble salts so common in the soils of arid regions had leached to the surface, underground channels might bring water down from the mountains without its evaporation.⁴ These methods and technologies addressed many of the problems that plagued Russian attempts at irrigated agriculture in the region – and yet, most Russians dismissed indigenous methods of irrigation construction and maintenance as cumbersome and labor intensive; indigenous tools and technologies used in the process appeared to them crude and inefficient.

In the absence of knowledge about the region and understanding of how its water resources might better be managed, however, tsarist officials in late-nineteenth century Turkestan maintained more or less intact the indigenous system of canal maintenance and the hierarchy of

⁴ While Russian works rarely refer to existing reservoirs, it appears that from the ninth century onward, various kinds of cisterns, ponds, and mountain reservoirs had played important roles in the irrigation of arid lands in Central Asia (A.R. Mukhamejanov, "Land Utilization" in C.E. Bosworth, M.S. Asimov, eds., *History of Civilizations of Central Asia*, 4, II (Delhi: Motilal Banarsidass, 2003), 294-95). Some towns had water tanks with water for municipal purposes – for example, the famous Labi-hauz in Bukhara. Major canal maintenance was carried out in the dry season, when canals were allowed to dry out, which may explain why the existence of reservoirs to overcome seasonal and annual low flows was not always noted by the Russians.

canal overseers, whose job it was to observe and regulate irrigation networks, ensuring the equitable distribution of labor and water among the communities on a given system. Many newly arrived Slavic settlers, who were unused to irrigated agriculture – and who had little understanding of the “civilizing mission” with which they had been charged – adopted local techniques as well.⁵ They adopted their indigenous neighbors’ lifestyles and farming technologies, whether this involved a shift from cultivation to livestock herding on a dry steppe, or the construction of a *chigir*, the wooden waterwheel whose “unforgettable sounds” of creaking, scraping, and splashing might be heard across the Central Asian region.⁶ The Russian adoption of local ways of life concerned tsarist officials, who were afraid that rather than exerting a civilizing influence on the local population, Slavic settlers might be “going native.”⁷

In the early years of the twentieth century, the dependence upon existing indigenous irrigation systems and techniques was entirely unsatisfactory to an empire that was bent on industrialization, modernization, agricultural reform, and exploiting all of the “productive forces” that each region had to offer. Yet among the young hydraulic engineers trained in the cultured atmosphere of Russia’s capital at St. Petersburg, the capital city that tsar’ Peter the Great had reclaimed from the northern marshes, many saw Turkestan as a backwater; such engineers seem to have been loath to forsake prestigious careers by accepting a post in a distant peripheral region.⁸

⁵ Willard Sunderland, “Empire without Imperialism? Ambiguities of Colonization in Tsarist Russia,” *Ab Imperio*, 2 (2003), 101-114: 107; Jeff Sahadeo, “Epidemic and Empire: Ethnicity, Class and ‘Civilization’ in the 1892 Tashkent Cholera Riot,” *Slavic Review*, 64, 1 (Spring 2005), 117-139: 137-38.

⁶ Raphael Pumpelly, *Explorations in Turkestan* (Carnegie Institute of Washington, 1908) 63-4; Count Konstantin K. Pahlen, *Mission to Turkestan: Being the Memoirs of Count K.K. Pahlen, 1908-1909*, ed. Richard A. Pierce, trans. N.J. Couriss (New York: Oxford Univ. Press, 1964), 22-23.

⁷ For instance, RGIA, (Rossiiskii gosudarstvennyi istoricheskii arkhiv, Russian State Historical Archive) f. 391, op. 4, d. 249, ll. 2-2ob, from Samsonov to the Minister of War (7 September 1909).

⁸ This problem would persist in the Soviet period. See, for instance, GARF (Gosudarstvennyi arkhiv Rossiiskoi Federatsii, State Archive of the Russian Federation) f. 374, op. 9, d. 561, l. 10, “Protokol No.1 - Soveshchaniia pri vneplanovoi inspeksii oblastnoi RKI po voprosu neudovletvoritel'nykh zaiavok Sredazvodkhoz po narodu

Even those who saw such opportunities as a challenge often found themselves at a loss when confronted with alien Central Asian environments. In St. Petersburg, the hydraulic problems facing engineers were typical of those across much of northern Europe: marshes had to be reclaimed, swamps drained, floodwaters held back, rivers rectified. In other words, St. Petersburg had too much water. The capricious rivers of Central Asia, on the other hand, seemed as fickle as the region's inhabitants. Some problems were familiar – dams burst and channels ruptured when heavy loads of meltwater came down from the mountains in the spring. But at other times, the irrigation channels were bone dry, and crops withered in the scorching heat. Irrigation canals lost water to the air, through evaporation, or to the soil, through seepage. Irrigation runoff created swamps instead of productive agricultural land; nearby, soluble salts formed thick crusts on the surface of the dry earth, rendering newly reclaimed fields unusable. Thus even experienced Russian engineers often found they did not have the practical expertise to conquer Central Asian nature.⁹ The prevailing situation in Turkestan led many Russians to support the idea of recruiting foreign engineers as consultants and teachers.¹⁰ In their quest to learn more about irrigation in warmer and drier climates, tsarist engineers, too, traveled to places such as India and North Africa.¹¹ But by the early twentieth century it was widely accepted that there was one place in the world where superior expertise in grappling with arid environments did exist, and that was the American West.

NKT, 5 February 1930.”

⁹ Irrigation was practiced on some parts of the Russian steppes (David Moon, Chapter 7 in *The Plough that Broke the Steppes: Agriculture and Environment on Russia's Grasslands, 1700-1914* (Oxford: Oxford Univ. Press, 2013), but Russian engineers had to look abroad for expertise on the irrigation of arid lands.

¹⁰ K.A. Timaev, “Turkestanskii irrigatsionnyi otdel,” *Turkestanskii kur'er*, 116 (1909) in *Turkestanskii sbornik [TS]*, 508, 105-108: 106-7. Between 1905 and 1908 the Ottoman government had also invited foreign entrepreneurs and engineers to help in the development of cotton in the Çukurova region of Turkey (Meltem Toksöz, *Nomads, Migrants and Cotton in the Eastern Mediterranean: The Making of the Adana-Mersin Region in the Ottoman Empire, 1850-1908* (Boston: Brill, 2010)).

¹¹ *Golodnaia step' 1867-1917: Istoriia kraia v dokumentakh* (Moscow, 1981), Documents 32, 34; RGAE (Rossiiskii gosudarstvennyi arkhiv ekonomiki, Russian State Archive of the Economy), f. 320, “E.E. Skorniakov.”

California in Turkestan

In the first years of the twentieth century, the American West was the region that came to be most often invoked as a model for Russian Turkestan. Not only did enthusiastic observers tout the areas watered by the Amu and Syr rivers as “Russia’s California”¹² – ripe for development through irrigation construction into productive agricultural land that could support an influx of stalwart farmers – but Californian engineers were developing impressive irrigation and settlement projects both in the American West and around the world.¹³ If some of that American expertise could be channeled into Turkestan, Russia, too, might be able to, as the saying went, “bring dead lands to life.”¹⁴ In 1907, a commission of the Turkestan Agricultural Society stated bluntly that irrigation under the Central Asian khans had been more successful than any Russian attempts to irrigate Turkestan. The Americans, the commission claimed, had irrigated in just three to four decades “what would take us, under the current regime, three to four thousand years.”¹⁵ Russian attempts to maintain a foothold in Turkestan might be in jeopardy if a solution to the irrigation problem could not be found.

A telling indication that it was American hydraulic engineering expertise that the Russian government valued above all else was the quick official acceptance of a proposal in 1911 by the American entrepreneur John Hays Hammond to send a team of experts to investigate Turkestan for the potential of developing a large-scale irrigation project in the region. Russian law did not,

¹² Willy Rickmer Rickmers, “Impressions of the Duab (Russian Turkestan), read March 27, 1907,” *Proceedings of the Central Asian Society* (London, 1907); Engineer F.P. Morgunenko referred to Turkestan as “Russia’s California and Russia’s Egypt” in 1915 (cited in G.K. Rizenkampf, *Trans-Kaspiiskii Kanal* (Moscow, 1921), 66). On the widespread appeal, from the 1880s on, of California’s “garden landscapes”, in which “an abundant ‘natural’ landscape [was] imposed on an arid wilderness” see Ian Tyrrell, *True Gardens of the Gods: Californian-Australian Environmental Reform, 1860-1930* (Berkeley: Univ. of California Press, 1999), 4-8.

¹³ For Californian engineering as a model, see Jessica Teisch, *Engineering Nature: Water, Development, and the Global Spread of American Environmental Expertise* (Chapel Hill: Univ. of North Carolina Press, 2011).

¹⁴ Julia Obertreis, “‘Mertvye’ i ‘kul’turnye’ zemli: diskursy uchenykh i imperskaia politika v Srednei Azii, 1880-e-1991 gg.” *Ab Imperio*, 4 (2008), 191-231.

¹⁵ “Zhurnaly soveshchaniia komissii, obrazovannoi pri Turkestanskom obshchestve sel'skogo khoziaistva po voprosu ob oroshenii chastnymi predprinimateliami zemel' v Turkestanskom krae” in *TS*, 454, 145-51.

in fact, allow foreigners to engage in business enterprises conducted in the sensitive “border zone” of the empire, yet of all the domestic and foreign proposals that the Russian government received for the investigation of lands in Turkestan for irrigation and the investment of private capital, it was only Hammond’s vision of turning “waste land” into productive land that sparked immediate action.¹⁶

Hammond promised the very best experts that America could furnish: William Mackie, who at the time was working on another of Hammond’s projects on the Yaqui River in Mexico, and Arthur Powell Davis. As the Chief Engineer of the United States Reclamation Service, Davis was personally involved with “the most important work of this kind being undertaken anywhere in the world,” Hammond boasted.¹⁷ Mackie was no less qualified; indeed, Hammond wrote, Mackie “is considered the number one American authority on the greening of arid lands.”¹⁸

Though no concrete irrigation projects resulted from this visit, Hammond’s account of his meeting with Russian government officials – including an audience with the tsar’ himself – is quite telling. As he later put it, Russian Finance Minister Kokovtsev “was desirous of enlisting American capital, as well as American initiative and experience -- and *American initiative and experience were quite as important in his view as capital* -- for the development of Russian resources.”¹⁹ Indeed, the Russian state’s interest in utilizing American experience would continue through the Bolshevik Revolution.

¹⁶ On other irrigation and exploration proposals received by the Russian government, see E.R. Barts, *Oroshenie v doline r. Murgaba i Murgabskoe Gosudarevo imenie* (St. Petersburg, 1910), 135; N. Shavrov, *Vodnoe khoziaistvo Turkestana i Zakaspiiskoi oblasti v sviazi s proektom vodnogo zakona* (1911), 27-8; RGIA f. 426, op. 1, d. 767, l. 7a, *Novoe Vremia* (April 22, 1911); d. 768, ll. 1-2; d. 804, l. 106. On the Russian government’s privileging of Hammond, see RGIA f. 426, op. 1, d. 804, ll. 30-30ob; 64-64ob.

¹⁷ RGIA f. 426, op. 1, d. 804, ll. 81-82: 81.

¹⁸ *Ibid.*, ll. 80; 76-76ob.

¹⁹ Emphasis mine. John Hays Hammond, “Speech on the Russian Passport Question at the Hungarian Republican Club, New York, December 5, 1911,” 22-31: 24, Box 11, Folder 1, John Hays Hammond, Sr. Papers (MS 259), Manuscripts and Archives, Yale University Library.

Seeing like an engineer?

In June of 1929, Arthur Powell Davis returned to Turkestan – now Soviet Central Asia - to take up a new post: that of Chief Consulting Engineer for the Soviet government’s irrigation schemes in Central Asia. In a letter to Davis in the fall of 1929, contractor I.W. McConnell wrote, “It is needless to say that I was quite surprised to hear of your connection with the work of the Soviet Government... .”²⁰ Indeed, Davis’s decision to enter into a contract with the Bolsheviks may have struck his acquaintances as odd; after all, he “subscribed heart and soul to the Progressive creed,” with its “humanistic, individualistic, anti-monopoly and middle-class tone” - a far cry from the collectivist ideology driving the Soviet creation of a dictatorship of the proletariat.²¹ Others, though, familiar with Davis’s skills as a hydraulic engineer and sincere beliefs in the power of irrigation projects to transform lives for the better might have been less surprised. Davis was certainly no Communist, but he was intrigued to find out the extent to which visions of transforming large swaths of Central Asian “waste land” into successful settlements surrounded by productive fields had been realized in the nearly two decades since his first visit to the region. He was also simply curious about the Soviet Union. As he later put it, this journey “seemed an excellent opportunity to examine the interesting engineering features of Turkestan and of comparing conditions under the Soviet Union with those of 1911... .”²²

The interest was mutual. At the Sixteenth Party Congress in 1930, the Communist Party of the Soviet Union recommended importing foreign technical consultants to advise Soviet engineering projects and sending Soviet engineers abroad, particularly for study in the United States.²³ In

²⁰ Letter from I.W. McConnell to A.P. Davis (October 14, 1929), Box 5, Folder 4, Arthur Powell Davis Collection [APD], circa 1865-1974, Collection Number 01366, American Heritage Center, University of Wyoming.

²¹ Gene Gressley, “Arthur Powell Davis, Reclamation, and the West,” *Agricultural History* 42, 3 (July 1968), 241-257: 246.

²² “Czarist Russia,” 2, Box 2, Folder 1, APD.

²³ Bailes, “The American Connection,” 440.

Central Asia, the Bolsheviks were convinced that American expertise in irrigation engineering, along with American efficiency – Taylorist and Fordist production models found high praise in the Soviet Union of the 1920s²⁴ – were keys to the successful modernization and development of the region. For decades, Russian and Soviet engineers in Central Asia had struggled with projects designed to “bring the deserts to life” and expand the amount of acreage under cultivation, in order to open up new areas for colonization and realize the region’s economic potential.

These struggles had been compounded by the outbreak of war in 1914, followed by revolution and a civil war that lasted into the early 1920s – what Peter Holquist has described as a “continuum of crisis”²⁵. But irrigation plans such as the state-sponsored development of the so-called Hungry Steppe near the regional capital at Tashkent, which Davis had visited in 1911, had continued to receive attention. The region’s new Bolshevik rulers had devoted the second half of the 1920s to restoring irrigation systems as well as cotton production, both of which had suffered as a result of these societal upheavals. Ultimately the goal was not just restoration of cotton production to prewar levels but the achievement of “cotton independence” – in other words, to make the Soviet Union self-sufficient in cotton production. Like their tsarist predecessors, the Bolsheviks were eager to obtain American expertise to develop Central Asia, and cotton thus continued to be a thread connecting the Soviet Union and America.

Bolshevik officials and engineers working for the “Middle Asian Water Economy Service” (“water economy” being the literal translation of *vodnoe khoziaistvo*, water management), which was subsumed to the Soviet Central Cotton Committee in 1930,²⁶ asked Davis for his opinions

²⁴ Paul Josephson, *Would Trotsky Wear a Bluetooth? Technological Utopianism Under Socialism* (Baltimore: Johns Hopkins Univ. Press, 2009), 23; Stefan Link has argued that “...the implementation of Ford’s ideas and practices was a key component of illiberal modernization drives” in places such as Nazi Germany and the Soviet Union (“Transnational Fordism,” iii).

²⁵ Peter Holquist, *Making War, Forging Revolution: Russia’s Continuum of Crisis, 1914-21* (Cambridge, MA: Harvard Univ. Press, 2002).

²⁶ After Davis’s arrival in Central Asia, responsibility for overseeing irrigation projects shifted from the domain of

not only on technical drafts of irrigation projects and the latest in irrigation construction technologies, but on the organization of water management in Soviet Central Asia itself; clearly, his employers and colleagues had high hopes for an injection of American efficiency into what had amounted to a chaotic business in the 1920s. *The New York Times* reported that Davis was to have a full-time staff of thirty American irrigation engineers,²⁷ and word of the enterprise spread rapidly through American engineering networks. Though Davis received inquiries from all over the world,²⁸ ultimately the Soviet government approved only a small consulting staff, most likely for financial reasons. By the spring of 1930, there were three more full-time consulting engineers employed in the newly established American Consulting Bureau – or “Ambureau,” for short -- of the Soviet Central Cotton Committee: Lyman Bishop, Lyman Wilbur, and Willard Gorton.

These engineers, like thousands of other foreigners in the Soviet Union to participate in the First Five Year Plan – Soviet leader Joseph Stalin’s campaign of rapid industrialization and agricultural restructuring -- were pushed by the economic cataclysm that came to be known as the Great Depression. Thus many of these foreigners came not for ideological reasons -- indeed, many were wary of the Bolshevik regime -- but rather because the Soviet Union was offering work that was not available anywhere else in the world at the time. The Bolshevik government granted two-year contracts with the promise of partial payment in hard currency in the home country. Willard Gorton, for instance, was able to secure a salary of \$12,000 (\$600 dollars to be paid to his bank in Idaho each month, with another \$400 to be paid in Soviet rubles), a salary similar to what he had been used to earning in Mexico.²⁹ Davis assured him that, “the Soviet

the Central [Middle] Asian Water Economy to the Central Cotton Committee; he thus became chief consulting engineer for the Soviet Central Cotton Committee in 1930 (RGAE f. 8378, op. 1, t. 2, History of Glavvodkhoz).

²⁷ “Soviet to Irrigate Vast Cotton Area,” *The New York Times* (September 19, 1929).

²⁸ Box 5, Folder 4, APD.

²⁹ Letter to Amtorg (December 30, 1929), Willard L. Gorton Papers [WLG], Box 1, Folder B, Hoover Institution Archives, Stanford, CA; “Agreement between Soviet Union Middle Asian Water Economy Service (Sredazvodhoz) and W. L. Gorton, Feb. 6, 1930,” WLG, Box 1, Folder A. In fact, the Depression limited the

authorities have a high opinion of the capacity and reliability of American Engineers, and I have found them willing and anxious to live up to their contracts.”³⁰ For the Soviets, technical aid contracts, such as those signed by Davis and Gorton, served as “the primary method for the transfer of foreign technology and expertise during the first Five Year Plan...” and thus a key aspect of the industrialization drive.³¹

But American engineers were not simply driven into the arms of the Bolsheviks out of financial desperation. They were also pulled by the potential inherent in Soviet development schemes and attracted by Bolshevik enthusiasm for technology and efficient American modes of production and organization. As technical professionals, the Soviet Union appeared to them to be an intriguing laboratory, in which all kinds of grandiose engineering schemes might come to fruition. Arthur Davis marveled that the Soviet Union hoped to accomplish in five years what had taken the United States Reclamation Service twenty-five years.³² And, as Gorton put it, “whatever else their governmental scheme is, it is most assuredly a great social experiment.” Having already worked overseas – one of his references certified that he had “sufficient experience with foreign peoples to understand the necessity of grasping the other man's viewpoint”³³ – in March of 1930 Gorton set off cheerfully for Russia from the New York-based headquarters of Amtorg, the organization that coordinated the hiring of American specialists to go to the Soviet Union, quipping to his wife, “I have a letter to a Mr. G. Feliman, Sredazvodhoz, Petrovka 16 apt 8 Moscow. It is in Russian so I can't tell you what it is about except it has my name in it in English. It may say to shoot me at sunrise after arrival for all I know.”³⁴

Soviets' ability to pay in hard currency (Bailes, “The American Connection,” 443).

³⁰ Letter from A.P. Davis to W.L. Gorton (September 17, 1929), Box 5, Folder 4, APD.

³¹ Bailes, “The American Connection,” 433.

³² “Czarist Russia,” 2, Box 2, Folder 1, APD.

³³ Letter from I.W. McConnell to A.P. Davis (October 14, 1929), Box 5, Folder 4, APD.

³⁴ Amtorg was also known as the Soviet American Trading Company. Letter from W.L. Gorton addressed to “Dearest” (presumably his wife Catherine Sarchet) (New York, March 7, 1930), WLG, Box 1, Folder B.

Davis's reassurances played an important role in the successful recruitment of expertise for the Ambureau. In spite of difficult living conditions in Soviet Tashkent in the summer and fall of 1929, Davis seems to have settled into his new position as chief consultant on all Soviet Central Asian irrigation projects fairly easily. He quickly fell into a routine of meeting with Soviet engineers – some of whom he had met on his first trip nearly twenty years earlier³⁵ – to discuss irrigation plans and listening to them lecture at length about various topics connected with hydraulic engineering, from the “duty of water” to the composition of alkali soils in Central Asia. He required a translator to understand the reports and lectures that were presented to him, but the engineers all spoke a common technical language that allowed them to imagine similar versions of a bright future for Central Asia. Davis found the Soviet engineers to be “well up on irrigation literature and theoretical matters generally but...almost devoid of experience with modern irrigation and construction.”³⁶

With the coming of the revolution, tsarist engineers had found themselves swept up into a Bolshevik tide that promised to wash over all corners of the former Russian Empire, bringing modernity and progress in its wake. Though Bolshevik enthusiasm for technology seemed to place high value on a technocratic ethos and ensure a prestigious place for engineers in the new Soviet society, Russian engineers, often highly educated, well-to-do, well-traveled abroad, and trained in elite tsarist institutions, were the antithesis of the proletariat in whose name the revolution had supposedly been carried out. The late 1920s saw a hostile campaign against so-called “bourgeois specialists,” and many engineers were pressured to have their scientific

³⁵ Though “those I knew best are not in evidence” (Letter from A.P. Davis to engineer F.E. Weymouth (September 17, 1929), Box 5, Folder 4, APD).

³⁶ Letter from A.P. Davis to consulting engineer A.J. Wiley (February 8, 1930), Box 5, Folder 4, APD. Professor Rizenkampf's 1919 work on a proposed Trans-Caspian canal demonstrates the kind of familiarity with contemporary irrigation research to which Davis refers – for instance, Rizenkampf cites Italian Professor Luigi Luiggi's summary of the International Congress of Engineers in San Francisco in 1915, followed by a reference to “Teele's *Irrigation in the United States*” (G.K. Rizenkampf, *Trans-Kaspiiskii Kanal (Problema orosheniia Zakaspiia)* (Moscow 1921), 27-28).

designs come into line with pseudo-scientific Soviet planning. In Central Asia, a prominent show trial designed to purge multiple members of the water management department was carried out in Tashkent in 1928, even before the more famous “Shakhty” trial of coal industrialists in the North Caucasus. The show trial was a clear signal from Stalin’s government that irrigation engineers in Central Asia could not assume that they were safe, simply because their expertise was needed.³⁷

The water management department’s main forum for publishing on irrigation issues, the *Irrigation Herald*, was renamed *Socialist Water Usage* in 1930; the content of its pages had already displayed a shift from general scientific articles to ones that clearly toed a party line.³⁸

In spite of the fact that Soviet engineers found themselves under political pressure from the communist party – or perhaps because of it – they welcomed the arrival of their American colleagues and the opportunity to spend many long hours discussing technical matters, traipsing through dusty fields, or exploring remote parts of the country by boat and plane (when airplanes were not reserved for party members). Their shared educational backgrounds, professional ethos, and understanding of engineers as having an important role to play in the improvement of the modern world meant that they saw the world through similar eyes.

The accounts of Soviet Central Asia left by American engineers in many ways echoed the language of their Soviet colleagues. Russian engineers had long commented on the supposedly primitive nature of indigenous Turkestani irrigation systems and the inefficiency of such systems, in particular the high manpower and number of labor-hours needed to maintain them.

The American engineers agreed. In an article for *The National Geographic Magazine*, Lyman

³⁷ RGASPI (Rossiiskii gosudarstvennyi arkhiv sotsial’no-politicheskoi istorii, Russian State Archive of Socio-Political History) f. 62, op. 2, d. 1289, “Sudebnyi protsess nad rabodnikami ‘Vodkhoza’”; “Trial of Soviet Officials: Charges of corruption in Central Asia,” *The Times of London* (February 9, 1928), 13; Kendall Bailes points out that, unlike British and German engineers, American engineers were not targeted in any of the Soviet show trials. (Bailes, “The American Connection,” 431).

³⁸ Jonathan Michael Thurman, “Modes of Organization in Central Asian Irrigation: The Ferghana Valley, 1876 to Present,” (Unpubl. Ph.D. dissertation, Indiana University, 1999), 26.

Wilbur reported that the amount of labor required to maintain indigenous irrigation systems meant that the Central Asian people “cannot properly care for their land.”³⁹ Like the Russians, the Americans saw Central Asian lands as in need of improvement and the peoples who inhabited them as in need of assistance. Following such logic, if Central Asians could not care for their own land, intervention would be both necessary and welcome.

The Central Asian landscapes themselves seemed to reflect this inability of the “natives” to give their lands the “proper” care that was necessary to make them productive. In the late nineteenth century, Russian observers had recorded with despair the seemingly senseless methods by which indigenous Turkestanis constructed an irrigation channel. Construction engineer E.R. Barts, for instance, claimed, when describing the Murghab oasis, that “the direction of canals is tortuous, it does not correspond to the configuration of the location, but is rather completely arbitrary.”⁴⁰ Two decades later, Wilbur included a photograph of “sinuous” irrigation channels in his article for *The National Geographic Magazine*.⁴¹ Moreover, he suggested, Central Asians had in fact initially *refused* to build canals along straight lines, insisting that the water needed to “see” where it would flow next. “Not without much persuasion and many desertions by the native workers,” reported Wilbur, “was the first undertaking completed and the proposition demonstrated that water will run in a straight line.”⁴² In the view of both Soviet and American engineers, Central Asians needed to be brought to understand more rational and efficient ways of developing the potential inherent in their land.

³⁹ Lyman Wilbur, “Surveying Through Khorasm: A Journey Into Parts of Asiatic Russia that Have Been Closed to Western Travelers Since the World War,” *The National Geographic Magazine* (June 1932), 752-780: 761 (photo caption).

⁴⁰ Barts, *Oroshenie v doline r. Murgaba*, 137.

⁴¹ Wilbur, “Surveying Through Khorasm,” 762.

⁴² *Ibid.*, 766.

Canals built to follow natural grades in the landscape that often were not visible to the naked eye may have given the appearance of being haphazard, as they moved to follow naturally occurring changes in the topography. Even systems built by European and American hydraulic engineers rarely adhered to the razor-straight lines in the draftsman's planning book. The irrigation systems built under the Carey Act in Idaho, for instance, which Russian engineer Evgenii Skorniakov had enthusiastically recommended as a model for Turkestan,⁴³ were not simply the imposition of precisely engineered human systems upon a pliant and receptive nature. Instead, rather than trying to overcome already existing obstacles in the physical landscape, engineers built lateral canals in the Snake River Valley that used topography to their advantage; this meant that the results often resembled small creeks, rather than planned irrigation channels.⁴⁴ Thus rather than sticking steadfastly to the abstractions of engineering theories, engineers in Idaho – like engineers around the world -- adjusted their plans to fit the features of the land; like Turkestani canal builders, they saw the natural advantages of existing landforms and revised their original plans to take these features into account.⁴⁵

In spite of these differences between theory and practice, both Soviet and American engineers in Central Asia continued to place a higher value on landscapes that clearly demonstrated the domination of humans over nature. The unintelligibility of Central Asian landscapes was placed in stark contrast to idealized Euro-American landscapes, where rectification programs made rivers resemble canals, and the canals themselves had straight, reinforced banks. The state of the

⁴³ E.E. Skorniakov, *Oroshenie i kolonizatsiia pustyn' shtata Aidago v Severnoi Amerike na osnovanii zakona Keri (Carey Act): Otchet po zagranichnoi komandirovke* (St. Petersburg, 1911). Skorniakov inscribed a copy of this two-volume work to Arthur P. Davis; this copy is now in the Library of Congress.

⁴⁴ Mark Fiege, *Irrigated Eden: The Making of An Agricultural Landscape in the American West* (Univ. of Washington, 1999).

⁴⁵ John Wesley Powell, though he was an enthusiastic supporter of modern science and engineering, argued for irregularly shaped irrigation districts based on watershed areas, rather than the straight lines that define states in the US West today (Powell, *Report on the Lands of the Arid Regions of the United States with a More Detailed Account of the Lands of Utah, with Maps*. 2nd ed. (Washington, D.C.: Government Printing Office, 1879)).

landscape was equated to the civilizational state of the people. In Central Asia, an apparent lack of planning suggested not only the irrationality of the systems themselves, but also reflected the irrationality of the people who built them. Language such as that used by Davis, who described Central Asian landscapes as “cluttered” and “disfigured,”⁴⁶ suggested not only that the inefficiency and irrationality of Central Asian irrigation systems could and should be brought to order by the engineer’s magic wand, but that Central Asians themselves were incapable of being proper stewards of their own land. Though Soviet rhetoric insisted that “there is no bad land, only bad farmers,”⁴⁷ it also acknowledged the particularly difficult lot which Central Asians had been dealt. As one Soviet engineer put it, in Central Asia, “only the aid of the [Soviet] Union makes it possible to eternally tear asunder the many chains of slavery with which nature has fettered an entire people.”⁴⁸

A 1929 Soviet propaganda film on the building of the Turksib railway that would connect the grain fields and lumber yards of Siberia with the cotton fields of Turkestan presented the construction project as a “war on the primitive” – an attack both on the obstacles of nature and the primitive lifeways into which the people of Central Asia had been forced by the hostile environment.⁴⁹ Simultaneously, Soviet scientists prepared an “attack” on the deserts.⁵⁰ Militaristic jargon was not just confined to ideas of the “conquest of nature,” but penetrated all aspects of Soviet life in the late 1920s and early 1930s – everything was a struggle, a battle, for which Soviet citizens were constantly being exhorted to take up arms. This kind of mobilizational language, new under the Bolsheviks, suggested that the revolution was not yet

⁴⁶ “Czarist Russia,” 4, Box 2, Folder 1, APD.

⁴⁷ Engineer A. Bykov, “Melioratsiia na Vserossiiskoi sel'sko-khoziaistvennoi vystavke,” *Vestnik irrigatsii*, 2 (February 1924), 76-87: 77.

⁴⁸ V. Poslavskii, “Poiashitel'naia zapiska k planu rabot na 1925/26 po Kelifskomuzboiu” (RGAE f. 4372, op. 16, d. 183, l. 33).

⁴⁹ *Turksib* (USSR 1929), dir. Victor Turin, prod. Vostok-Kino, prod. for video by David Shepard (NY: Kino Video, 1997).

⁵⁰ GARF f. 3316, op. 23, d. 650, l. 35, “Nastuplenie na Kara-Kumy,” *Turkmenskaia Iskra* (Oct. 28, 1929).

complete. But for Soviet hydraulic engineers, transforming Central Asia involved more than just attacking the deserts. The very legitimacy of Soviet rule in the region was bound up in the ability of the Bolsheviks to answer the “age-old desire” of the Central Asian people for water.⁵¹ The Bolshevik message to their Central Asian subjects was that only Soviet rule could liberate the peoples of Turkestan, not only from their cruel past overlords – the emirs, khans, beks, and not least the Russian tsars – but also from the vagaries of nature. It was through modern engineering that Soviet Central Asians would be guarded against, on the one hand, the capricious nature of the rivers that changed their courses and brought heavy loads of silt to stop up irrigation canals; and on the other, against the dryness of the climate. Reservoirs would bring water in times of no rain, hydroelectric dams would create power to run machinery that would save backbreaking hours of labor, modern technology would make maintenance of irrigation systems easy, and extensive new permanent irrigation systems would make even the deserts bloom.

In their descriptions of travels in the region, the Ambureau engineers echoed the stark terms with which Soviet engineers and officials described the encounter with Central Asian nature. In a description of a trip along the Amu Daria, for instance, Wilbur wrote that “everywhere were demonstrations of the terrible power the river wields as it meanders back and forth, cutting away its banks, destroying farms and farmhouses. Against this force the natives are helpless, for their only tool is the shovel.”⁵² Once again, Central Asians, seemingly unable to cope with the environments in which they lived, appeared in desperate need of assistance.

⁵¹ This theme formed the basis for a planned feature film by the great Soviet director Sergei Eisenstein in 1939; unfortunately, the film was never made (Sergei Eisenstein, *The Film Sense*, App. 7, “Ferghana Canal, Reel 1,” 256-269).

⁵² Wilbur, “Surveying Through Khoesm,” 757-759.

Tuskegee to Turkestan

The formation of a Soviet “Ambureau” within the Central Cotton Committee was designed to harness American irrigation expertise, in order to expand the amount of land in Central Asia under cotton cultivation. Following the import to tsarist Russia of American seeds, construction technologies such as Bucyrus excavators, American capital, and expertise, it is perhaps unsurprising that the Bolsheviks would continue to use American knowledge and technology as a means of freeing the Soviet Union from economic dependence upon the global cotton market. But in 1931 it was not just the Ambureau that linked Soviet Central Asian cotton dreams to the United States. One year earlier, in cooperation with Amtorg, American Oliver John Golden had formed an office in New York City in the hopes of gathering a group that would travel to the Soviet Union and assist the development of the cotton industry in Central Asia.⁵³

Golden, the son of a former slave, had already spent time in Soviet Russia, at KUTV, the Communist University of the Toilers of the East. As a student at KUTV, he had witnessed the great diversity of peoples that inhabited the Soviet Union. When Golden arrived in Moscow in the fall of 1925, he may have heard about a speech given at KUTV a few months prior, in which Stalin tasked “the leading cadres in the Soviet East” with raising agricultural production, making particular reference to the irrigation programs being undertaken in Central Asia and the Caucasus.⁵⁴ Even if he had not heard about the speech, Golden, who had had received several years of training as a cotton specialist from the all-black Tuskegee Normal and Industrial Institute in Alabama in the 1910s, returned to the United States in 1927 with a strong desire to

⁵³ Lily Golden, *My Long Journey Home* (Third World Press, 2002), 7.

⁵⁴ J.V. Stalin, “The Political Tasks of the University of the Peoples of the East,” speech delivered at a meeting of students of the Communist University of the Toilers of the East (May 18, 1925), <http://www.marxists.org/reference/archive/stalin/works/1925/05/18.htm>. Accessed July 24, 2013.

have blacks participate in the Soviet experiment by helping to modernize the lives of their “colored brethren” in places such as Soviet Socialist Republic of Uzbekistan.⁵⁵

Golden drew on his connections with the Tuskegee Institute in order to find the best specialists possible for this mission to the Soviet Union. He called on the famous Tuskegee scientist George Washington Carver to assist the endeavor, arguing to Carver that “you owe it to your race.”⁵⁶ Carver seems to have been loath to get personally involved in a scheme to assist a communist government, but his assistance in identifying qualified black specialists was instrumental in recruiting the group of over a dozen African-Americans who left for the Soviet Union in 1931, having signed three-year contracts with the Soviet government.⁵⁷ Some would stay even longer than three years; Golden himself never returned to the United States, eventually taking a job teaching at the Tashkent Institute of Irrigation. His daughter Lily was born in Tashkent and went on to become the first black graduate of Moscow State University.

In Uzbekistan, using seeds they had brought with them to the Soviet Union, Golden’s team of specialists worked on developing a new strain of cotton that would supposedly take 25% less time to mature than cotton in the American South. According to his daughter and granddaughter, Golden’s team was successful in this regard, though direct evidence of this in Soviet or other sources has yet to come to light.⁵⁸ Regardless of the success of the experiment, it may seem strange that the son of a former slave from Mississippi devoted his life to ensuring that another group of people on the other side of the world would become increasingly dependent on cotton

⁵⁵ For more on Soviet antiracism, see Meredith Roman, introduction to *Opposing Jim Crow: African Americans and the Soviet Indictment of U.S. Racism, 1928-1937* (Univ. of Nebraska, 2012), 1-2; 6-9.

⁵⁶ Letter from Golden to Carver in 1931, cited in Yelena Khanga with Susan Jacoby, *Soul to Soul: A Black Russian-American Family, 1865-1992* (New York: W.W. Norton, 1994), 75.

⁵⁷ According to Joyce Gleason Carew, some sources list the group as having fourteen members, while others list sixteen (though none identifies all sixteen). *The Baltimore Afro-American* from October 17, 1931, for instance, recorded eleven cotton specialists, a civil engineer, and four other workers, while a photograph in Lily Golden’s personal collection shows a group of nine men and five women (*Black, Red, and Russian*, 234, fn. 39; Golden, *My Long Journey Home*, photo section).

⁵⁸ Khanga, *Soul to Soul*, 84.

agriculture. In fact, however, this was not the first involvement of black experts connected to the Tuskegee Institute in colonialist cotton-growing schemes abroad.

Thirty years earlier, the German government, also searching for new sources of cotton fiber outside of America, and apparently inspired by Russian efforts to introduce acclimatized American seeds to Turkestan, had approached Booker T. Washington, the leader of the Tuskegee Institute, with a request. The Germans hoped that Washington might identify several African-American experts to assist Africans in growing cotton in the German colony of Togoland. While indigenous Togolese, like Turkestanis, already cultivated a short-staple variety of cotton (in this case a West African variety), Germans believed that Africans were backward and required scientific training in order to become more productive. In particular, Germans believed that since blacks were “naturally” tied to cotton culture, they made the best cotton cultivators – therefore, the best teachers for African cotton-growers would come from the African-American recipients of the industrial and agricultural education made available by the Tuskegee Institute.⁵⁹ This scheme resonated with Washington’s belief that modern, urban life was harmful to the newly freed black men and women of America’s South; indeed, it was a key component of his “Tuskegee idea,” which sought to empower southern blacks by teaching them agricultural and other skills.⁶⁰ Many other black Americans, themselves the children of slaves, seem also to have subscribed to the European attitude that Africans were uncivilized; thus, African-American cotton growers were an essential part of the German colonial mission to make Togo a cotton-producing colony.⁶¹ Assistance to German colonial schemes in Togo was followed by a group of

⁵⁹ Andrew Zimmermann, *Alabama in Africa: Booker T. Washington, the German Empire, and the Globalization of the New South* (Princeton, 2010), 1-12, passim.

⁶⁰ Stanford Lyman, *Militarism, Imperialism, Racial Accommodation: An Analysis and Interpretation of the Early Writings of Robert E. Park* (Univ. of Arkansas, 1992), 57.

⁶¹ Sven Beckert, “From Tuskegee to Togo: The Problem of Freedom in the Empire of Cotton,” *The Journal of American History*, 92, 2 (Sept. 2005), 498-526: 509.

Tuskegeans who traveled to Anglo-Egyptian Sudan in order to assist American businessman Leigh Hunt's pioneering cotton venture on the Zeidab Estate on the Nile River.⁶²

Like the German colonizers of Togo and the Tuskegee graduates who responded to their call, Oliver Golden seems to have felt that black cotton growers from the American South would be the ideal representatives of scientific "cotton culture" in Soviet Central Asia. For their part, the agronomists and other experts who joined him on the journey to the Soviet Union in 1930 seem to have anticipated feeling some kind of affinity with the people of Uzbekistan, as fellow "people of color." Even more enticing was the promise the Soviet Union held as a race-free society in which all were equal, regardless of the color of their skin. In this hope they joined artists like Langston Hughes and Paul Robeson, who also were drawn to the Soviet Union by promises of racial equality.

Central Asia, in particular, appeared promising for peoples long subjugated through racist discrimination. In the early 1930s, Joshua Kunitz, an American communist sympathizer, admired the new Soviet cotton collective farm as a way to absorb superfluous labor; he dedicated his book on the marvelous changes taking place in Soviet Central Asia "to the Negro people of the United States," apparently finding no irony in the fact that the Bolsheviks wished to free the oppressed peoples of the East by making Central Asians increasingly dependent upon cotton agriculture.⁶³ Indeed, in spite of Soviet rhetoric about liberation, the quest to grow more cotton in Central Asia would not make its people more free. Moreover, though conceived in a spirit of humanity and brotherhood, and inspired by Booker T. Washington's emphasis on hard work and agricultural skills as a means of empowering peasants from Africa to Asia, the short-lived Tuskegee experiment in the Soviet Union played a role – though minor -- in further binding the

⁶²Lyman, *Militarism, Imperialism, Racial Accommodation*, 60. Thanks to Louis Warren for drawing my attention to Hunt's venture.

⁶³ Joshua Kunitz, *Dawn over Samarkand: The Rebirth of Central Asia* (New York: International Publishers, 1935).

livelihoods of Central Asians to a cotton crop that would continue to flourish at the expense of other agriculture – and even human health – through today.

Cotton Colonialism

It may seem surprising that so many Americans were willing participants in the Soviet effort to free itself from imports of American cotton. Rather than criticizing this goal, however, Americans discussed it openly. *The New York Times*, for instance, approvingly mentioned the Soviet utilization of American irrigation expertise in its bid to become independent from American cotton imports, and the author marveled at the scope of the Soviet irrigation projects, which promised to be the largest in “Modern Times.”⁶⁴ On the other hand, the appeal of the Soviet cotton project was perhaps not so surprising, given that Americans and Soviets shared a general enthusiasm for the power of science and technology to create a brighter future and approved of grandiose projects designed to maximize the economic productivity of a region and contribute to its modernization. There were also cogent arguments for a decrease in the American production of cotton. As Arthur P. Davis put it, for instance:

The exclusive production of cotton in so much land in the southern states has depleted the soil fertility until the yield is very low and in most years not profitable. The thinking men of America have long realized that such extensive production of cotton in the southern states is undesirable...and the acreage of cotton [should be] reduced at least one-half.⁶⁵

What was much less openly discussed than American technical and economic assistance to the Soviet Union is the fact that the Americans involved in the transformation of Turkestan’s cotton economy seem to have genuinely believed that they were improving life in Central Asia, in spite of the fact that there was no evidence to support this.

To be sure, the long-term outcome of the experiments at the Yangiyul Seed Selection Station

⁶⁴ “Soviet to Irrigate Vast Cotton Area,” *The New York Times* (September 19, 1929).

⁶⁵ TsGA RU (Tsentral’nyi gosudarstvennyi arkhiv Respubliki Uzbekistan, Central State Archive of the Republic of Uzbekistan), f. 756, op. 1, d. 3226, l. 2. The boll weevil invasion was another reason for cotton decline in the South, leading to a westward shift in American cotton production towards Texas, Arizona, and California.

where Golden and his team carried out their work could by no means have been predicted in the early 1930s. But though we have little evidence of what Golden and the other black cotton specialists thought about how their work was impacting the lives of Central Asians, Yelena Khanga, Golden's granddaughter, suggests that her grandfather may have had some difficulties reconciling his work with his expectations. Like other foreigners, for instance, Oliver and his wife Bertha knew they were privileged with access to special stores and supplies, a position that was at odds with their belief in the equality that communism should offer.⁶⁶ The Ambureau engineers, for their part, observed the quality of life deteriorating over the course of their stay in the Soviet Union and reported that Central Asians were in a state of semi-starvation.⁶⁷ They were aware that this was in part a result of the Soviet government's obsession with increasing the cotton harvest, which resulted in cotton being privileged over all other crops.

The replacement of food crops with cotton, particularly in the fertile Ferghana Valley, was a process that had already been underway by the time Arthur Davis made his first trip to Turkestan in 1911.⁶⁸ During the turbulent years following the Russian Revolution of 1917, many Turkestanis starved as a result both of isolation from food-growing regions and food distribution policies that favored the Russian inhabitants of Central Asian cities.⁶⁹ Nevertheless, Turkestan was forced to accept tens of thousands of starving migrants suffering from a famine along the

⁶⁶ Khanga, *Soul to Soul*, 83.

⁶⁷ "The Vakhsh Project in Tadjikistan...." WLJ, Box 1, Folder F; Letter from A.P. Davis to *The New Republic* (January 21, 1933), 2, Box 5, Folder 4, APD.

⁶⁸ For the high percentages of irrigated land planted with cotton in the Ferghana Valley and other areas, see *Ezhegodnik Glavnogo upravleniia zemleustroistva i zemledeliia po Departamentu zemledeliia i lesnomu departamentu (1907)* (St. Petersburg 1908). On the replacement of grain with cotton and the corresponding need to import more grain, see, for example, Rickmers' comment in his 1913 *Duab of Turkestan*: "Something may be gained by the substitution of more valuable crops, but already now cotton has taken away grain land, and it remains to be seen if the export of cotton leaves a good profit to the native population as a whole, over the import of wheat" (524).

⁶⁹ On this phenomenon in 1918, see RGASPI f. 670, op. 1, d. 51, l. 266 ob.

Volga in 1921,⁷⁰ while publicly the Bolsheviks claimed that mythical stores of grain from Turkestan would help to alleviate hunger along the Volga.⁷¹ Gorton calculated that fully half the population of Tashkent in 1929 was made up of Russians who had fled to Turkestan at that time.⁷² Yet while the engineers griped about the lack of decent food in the markets, noted the strict rationing of foodstuffs and the “fantastic prices” for basic necessities in Tashkent – Gorton begged his wife to send him canned goods from America and recorded that he lost forty pounds in three months⁷³ -- they do not seem to have had qualms about advising their Soviet colleagues on projects that they knew would not lead to an increase in the cultivation of grain or other foodstuffs in Central Asia. The engineers experienced firsthand the difficulties of transportation to remote regions of Central Asia, and witnessed the extreme poverty of such regions, yet they still approved irrigation plans that slated these regions to be developed into cotton plantations. After passing through an area that Davis recorded as being “wretchedly poor,”⁷⁴ and a village where no food could be obtained besides melons, the engineers arrived at a boat launch on the Aral Sea. Wilbur described the scene matter-of-factly: “Here the *Commune* was at the dock taking on a load of wheat from Orenburg and Samara to feed the Uzbeks, Karakalpaks, and Turkomans of Khoresm, whom the Government is encouraging to grow cotton instead of food.”⁷⁵ With what they knew about the inefficiency of Soviet planning, and having seen the omnipresent lines even in the Soviet capital, the Americans must have realized that schemes requiring Central Asians to depend on other regions for food could only end badly.

⁷⁰ RGASPI f. 122, op. 1, d. 149.

⁷¹ Cyril Brown, “Russia’s Only Hope in New Food Levy: Fight Against Famine Absorbs Public Interest--Turkestan Supplies Counted On,” *New York Times* (July 20, 1921), 2. This may be one reason why the American Relief Association (ARA) did not establish any soup kitchens in Turkestan during its campaign to help Russian victims of famine in 1921-22.

⁷² “The Central Asian Country...,” WLG, Box 1, Folder F.

⁷³ Letter from Willard L. Gorton to his wife (September 8, 1931), WLG, Box 1, Folder E; “The 5 Year plan, which is our child...,” WLG, Box 1, Folder F.

⁷⁴ Letter from Arthur P. Davis to Mr. Louis Bartlett (September 27, 1930) Box 5, Folder 4, APD.

⁷⁵ Wilbur, “Surveying Through Khoresm,” 780.

On their return to the United States, the engineers condemned the corrupt Soviet leadership – Gorton went so far as to call Soviet Russia a “partially mechanized country of medieval barbarity,”⁷⁶ while Davis was of the opinion that “advocates of socialism and communism can do their cause no greater damage than to convince the world that the wretched mess in Russia is a sample of what they advocate”⁷⁷ – yet they did not condemn the role of experts in perpetuating the oppression of Central Asia and its people. Nor did Golden and his black agronomists, though many of them chose to return to Jim Crow America after several years, seem to recognize the part that they played – if initially unwittingly -- in helping to reinforce the colonial relationships that kept the Central Asian periphery producing cotton for the metropole, even while a new Soviet government touted freedom and equality for all. They seem to have been entranced not only by their own expertise, but by a visceral love for an aesthetic of modernity and progress encapsulated in the idea of deserts being brought to life.

We might simply label them idealists, only willing to see the world through rose-tinted glasses. If Davis had been impressed by the potential inherent in the tsarist-era plan to irrigate the Hungry Steppe, for instance, he was even more delighted with Russian engineer Rizenkampf’s last plans for the irrigation and settlement of the Hungry Steppe, updated after the revolution to fit socialist visions of the future. Davis approved of the plan, noting that, “an ideal scheme for distribution and use of water has been worked out which seems hard to improve.”⁷⁸ New Soviet development plans envisioned “belts of life,” along which communities, divided into “water units” and “colonization quadrants,” would have equal access to water, schools, hospitals, and markets.⁷⁹ Davis, always a firm proponent of the American “agrarian myth” – the idea that

⁷⁶ Big Chief notebook, WLG, Box 2.

⁷⁷ Davis, letter to *The New Republic*, 3.

⁷⁸ TsGA RU f. 756, op. 1, d. 3226, l. 21.

⁷⁹ RGAE f. 4374, op. 27, d. 354. ll. 89ob-90.

ideal communities were to be found in agrarian settings -- saw great potential in the Hungry Steppe. And yet he admitted that success could only be possible if many other conditions were met, including the construction of promised railroads and roads, and “provided conditions are preserved and fostered that will encourage initiative and enterprise.” In that case, Davis believed, “high and profitable production and the development of an ideal rural life and excellent citizenship in Golodnaya Steppe [Hungry Steppe]” would be possible.⁸⁰ Yet knowing what he knew of Soviet management, he could not have really believed this possible, though he was willing to rubber stamp the project with those caveats appended. The years of the First Five Year Plan were the years in which Soviet individuals were rapidly being subsumed to the collective machine, and Davis was not such an idealist that he was unaware of the stifling of individualism. He noted that of all the reports submitted to the Soviet government, it was only one line about private initiative that received criticism; indeed, after his return to the United States, he declared that during the Soviet First Five Year Plan, only “one thing has been accomplished 100 percent. That is the total destruction of private ambition and private initiative.”⁸¹

Nor could Davis have been unaware that the plan to irrigate the Hungry Steppe was shelved soon after he approved it; even more ominously, Georgii Rizenkampf, the engineer who had been in charge of the Hungry Steppe project for almost two decades, suddenly “disappeared under rather mysterious circumstances.”⁸² Mystifyingly, by the time Willard Gorton reached

⁸⁰ TsGA RU f. 756, op. 1, d. 3226, l. 26.

⁸¹ “Czarist Russia,” 3, Box 2, Folder 1, APD; “Weakness of Soviet” by Harvey C. Scott, Box 5, Folder 5, APD. A Russian translation of Davis’s report appears to have stated, simply, that “the Hungry Steppe presents extraordinary opportunities for ideal irrigation development, in order to guarantee maximum production and excellent living conditions, both rural and urban” (TsGA RU f. 756, op. 1, d. 3054).

⁸² The Hungry Steppe was not included in the irrigation construction plan for fall 1929/spring 1930 (RGAE f. 4372, op. 27, d. 430). The fact of Rizenkampf’s disappearance was reported later by Gorton; Davis does not mention it in his writings, nor is his diary for 1930 extant (it was most likely confiscated by Soviet authorities; he records that he was able to get one diary returned to him - the one for 1929 is now located with his papers at the American Heritage Center at the University of Wyoming (correspondence between Davis and Kainarsky, 1931, Box 5, Folder 4, APD).

Central Asia in March of 1930, he found that the Hungry Steppe project “had gone cold”;⁸³ instead of heading the construction of the project about which Davis had told him so much, he was assigned the job of serving as head consultant (though his contract clearly stated “construction engineer”) to a remote new irrigation project for growing long-staple Egyptian cotton that seemed to have been conjured up out of thin air on the border of Afghanistan in the Vakhsh River Valley.

Even if the consultants of the Ambureau and the agronomists who accompanied Golden had come to the Soviet Union in the apparently neutral guise of specialists – international professionals who were the bearers of general expertise that could be universally applied in the name of progress – they could not escape the fact that development projects are always inherently political. They may not have picked up on the “anti-cotton mood” reported by the Soviet political police,⁸⁴ who recorded the anti-Soviet rumors that circulated through Central Asian bazaars, teahouses, and other public places, but many of them understood that Soviet realities did not live up to Bolshevik promises, and that Central Asians were in some ways worse off under the Bolsheviks than they had been under imperial rule. Gorton noted that Central Asians “had heard considerable shouting about the glories of communism but could see nothing to indicate that they were getting any nearer to the promised paradise. The people were getting restless and there were sporadic outbreaks of banditry....” He concluded that the reasons for shifting irrigation emphasis from the Hungry Steppe to the Vakhsh Valley were entirely political in nature and carried a shotgun to ward off “bandits” and “Robbers.”⁸⁵

⁸³ “The Five Year Plan, which is our child...,” 5, WLG, Box 2, Folder 2a.

⁸⁴ For the years 1928-29, see RGASPI f. 62, op. 2, d. 1349, l. 7; d. 1350, ll. 12, 13, 79, 85; d. 1808, ll. 50, 51, 135.

⁸⁵ “The Soviet Union produces less than half...,” WLG, Box 1, Folder F; photograph of Gorton with shooting equipment, WLG, Box 1, Folder C.

Ultimately, no belief in a Soviet version of the American “agrarian myth” in which hungry steppes became precisely measured fields forming “belts of life”, nor visions of Uzbek and Tajik farmers, empowered by more productive harvests to improve their lives and become modern citizens of the world – could obscure the fact that, given the scarce water resources in the region, Soviet plans for the transformation of arid Central Asia into a massive cotton plantation could not be carried out without drastic environmental results. Soviet hydraulic engineers had always maintained that if their irrigation schemes succeeded, the Aral Sea would disappear;⁸⁶ and indeed, since the 1960s, with the diversion of the Aral Sea’s main feeders into fields for the purpose of sustaining a cotton monoculture, the sea has virtually disappeared. For Davis, as for the Soviet engineers, the predicted shrinkage of the Aral Sea had a positive side: the uncovering of “a considerable area of alluvial land which will add materially to the irrigable area of the desert.”⁸⁷ None of those engineers could have foreseen just how disastrous the disappearance of the sea would be – it has led to the loss of important species and livelihoods, a changing climate, and increasing health problems in the region – but it is also difficult to imagine that they really believed that the Soviet plan to devote as much of the region’s water as possible to cotton could have truly been for the greatest good, unless that greatest good did not take the indigenous people who already inhabited the region into account. As for Golden’s cotton specialists, they would have been well aware of the soil depletion resulting from a cotton monoculture noted by George Washington Carver in his work to develop the peanut as an alternative crop to cotton. If they did argue for crop rotation, as Golden’s granddaughter suggests,⁸⁸ it was in vain.

⁸⁶ See, for example, *Vestnik irrigatsii*, 3-4 (June-July 1923), 15.

⁸⁷ “Arthur Powell Davis Relates Story of Two Years he Spent in Turkestan,” *University Hatchet* (Columbian University, 1932), Box 5, Folder 5, APD.

⁸⁸ Khanga, *Soul to Soul*, 84. Khanga believes that her “grandfather’s generation of agronomists would be horrified by the misuse of their pioneering work in the Uzbek cotton fields” (ibid., 85).

Willard Gorton later wrote, “I often wondered as I read some of the appreciative statements of people who had been in Russia for short visits whether they were blind, or just liars.”⁸⁹ Yet the engineers and agronomists who envisioned such a bright future for Central Asia and its inhabitants were equally guilty of their own blindness – or their own self-deception. Though we cannot blame any individual for the outcome – a poor, environmentally degraded, unhealthy Central Asia that still depends on forced labor to bring in the cotton harvest -- we can censure the self-congratulatory mentality of the Americans who went to Central Asia with the idea that they could improve the lives of people in a place to which they had never been, and about which they knew virtually nothing, simply because they possessed a general knowledge that one might label expertise. Whatever their expectations, the Americans in this story all seem to have realized that the socialism or communism they expected to encounter did not seem to exist in the Soviet Union, for better or for worse. Yet whether they feared communism or desired it, American preoccupations with communism distracted from the reality of the situation, which was little more than a perpetuation of imperialist development schemes in a colonized borderland. The Americans took the Bolsheviks at face value when they claimed that imperialism was a thing of the past, washed away with the tsars and the Russian Empire they had ruled. The Americans accepted that a primitive society had to be lifted out of its feudal past, and that modernizing cotton agriculture was a crucial part of the process necessary for Central Asians to become part of the modern world, though the harnessing of land and water resources for cotton agriculture, far from liberating the peoples of Central Asia, resulted in their continued subjugation to Russian imperialism, and to a degradation of the environment resulting in severe problems which have yet to be addressed today.

⁸⁹ Emphasis in the original. “The Five Year Plan, which is our child...,” 4, WLG, Box 2, Folder 2a.